F·A·A·M facility for airborne atmospheric measurements

FLIGHT FOLDER

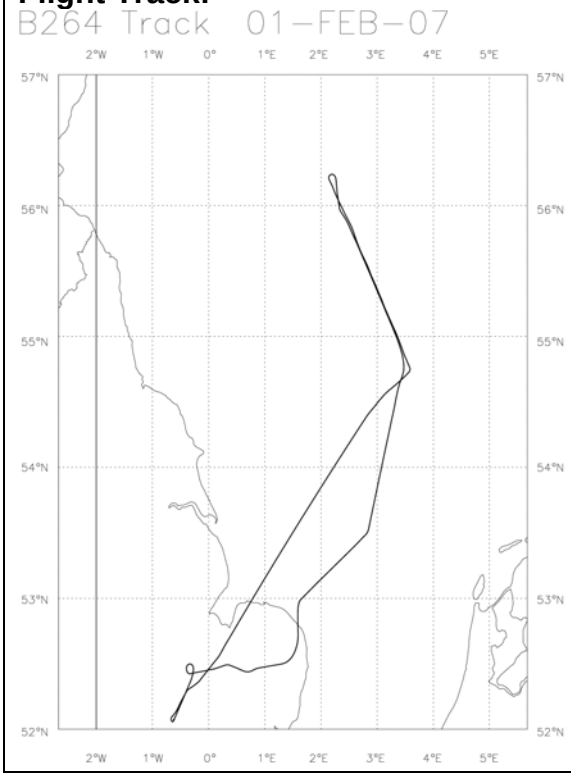
Flight No.:	B264
Date:	01 Feb 2007
Take Off	07:55:20
Landing:	10:25:58
Flight Time	2h30m38

Campaign: IASI

Operating Area: N Sea

POB	Position	Name	Institute
1	Captain	Alan Roberts	Directflight
2	Co-pilot	Alan Foster	Directflight
3	CCM	Dawn Quinn	Directflight
4	Mission Scientist	Phil Brown	Met Office
5	Flight Manager	Mo Smith	FAAM
6	Cloud Physics	Paul James	FAAM
7	AVAPS / CCM2	Stuart Heath	FAAM
8	Mission Scientist 2	Richard Cotton	Met Office
9	MARSS / FWVS	James Bowles	Met Office
10	SWS	Jeff Brown	Met Office
11	ARIES	Stuart Rogers	Met Office
12	Experience Flight 1	Carolyn Cook	Cardiff University
13	Experience Flight 2	Darren Hayton	Cardiff University
14			
15			
16			
17			
18			
19			
20			

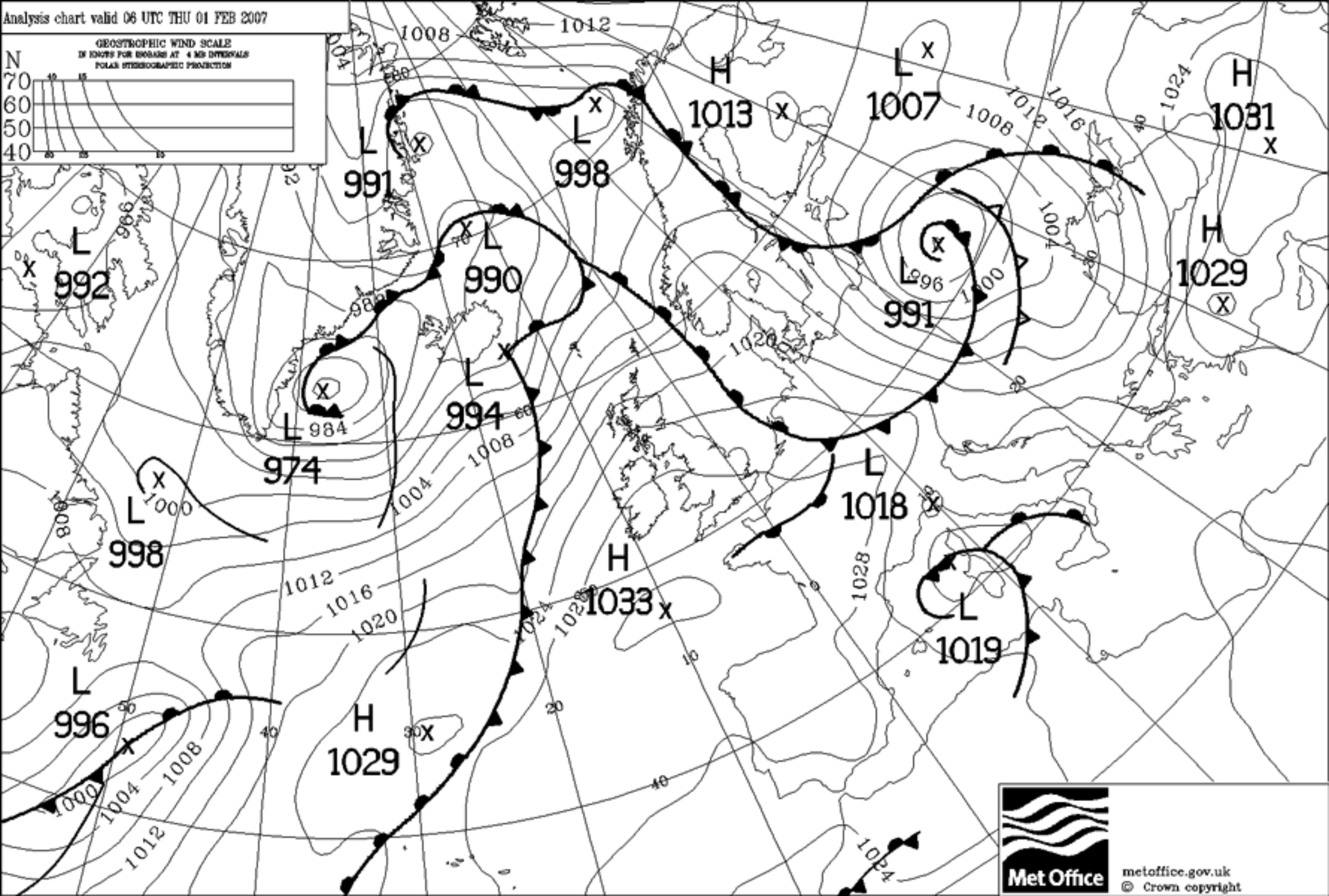
Flight Track:



FLIGHT SUMMARY

Flight No b264
Date: 01 Feb 2007
Project: IASI
Location: N Sea

Start Time	End Time	Event	Height (s)	Hdg	Comments
064947		Start-Up	-.05 kft	111	52'04.36N, 0'37.48W
074044		INU	-.06 kft	111	To Navigate Mode
075520		T/O	0.50 kft	322	Cranfield
075958		ASPs	7.0 kft	037	Open
082103		Videos	15.0 kft	037	Start UFC & DFC
082213		Heimann	15.0 kft	036	Cal
084518	090407	Run 1	-.21 - -.18 kft	326	A - B,QNH1026, 100'
085658		Heimann	-.19 kft	327	Cal
090505	091335	Profile 1	-.23 - 8.0 kft	333	From 50' Too much cloud for IASI, abort Plan A
091544	094420	Profile 1	8.0 - 32.0 kft	177	For FWVS
094421	095641	Run 2	32.0 kft	198	For FWVS
095457		Videos	32.0 kft	237	End UFC & DFC
095507		Videos	32.0 kft	237	Start RFC
095718	101535	Profile 2	32.1 - 11.7 kft	186	End at 12k'
102558		Land	-.09 kft	358	Cranfield
103504		Shutdown	-.10 kft	308	52'04.36N, 0'37.50W
103800		Videos			Stop Recording AFC


Analysis chart valid 06 UTC THU 01 FEB 2007
GEOSTROPHIC WIND SCALE
IN KNOTS FOR 850MB AT 4 MB INTERVALS
POLAR STEREOGRAPHIC PROJECTION
N
70
60
50
40
L 991
L 998
H 1013
L 1007
H 1031
L 992
L 990
L 996
991
H 1029
L 994
L 984
974
L 1000
998
H 1033
L 1018
L 1019
L 996
H 1029
Met Office
metoffice.gov.uk
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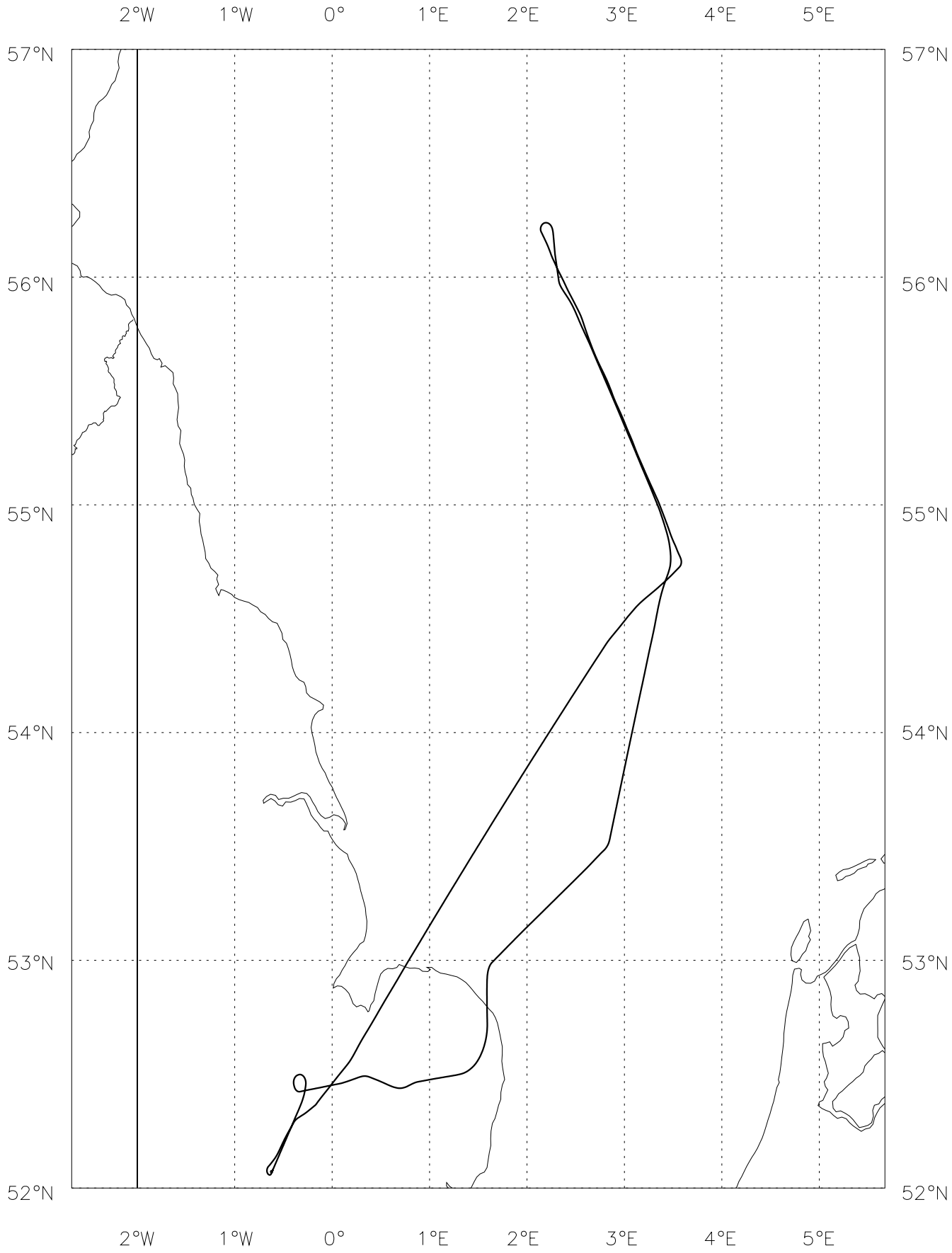
B264 Track 01-FEB-07



Sortie brief: METOP (IASI) overpass over ocean
Mission Scientist: Phil Brown Flight B264

Aim: To measure infrared radiances and the state of the atmosphere for calibration /validation of IASI on METOP-A satellite.

Location: Over open ocean. The mission scientist will determine the area of operations so as to operate in clear skies.

Weather conditions: Completely cloud free conditions at all altitudes are highly desirable; small amounts of cloud in limited areas are acceptable.

Key instruments: ARIES; AVAPS (15 sondes to be launched); temperature and water vapour sensors; Core Chem, MARSS, SAWS hygrometer, FWVS.

Radiation instrument operators' special instructions:
ARIES: At high level mainly nadir, short view of zenith during one run.
At low level one or (preferably) two short views at nadir otherwise mainly zenith.
HEIMANN: Mission scientist should ensure Flight Manager performs short cal of Heimann during the 100ft run(s) (at start or end) but that this does NOT clash with the ARIES nadir views.

Fixed Points: The runs will be over fixed ground positions in clear sky conditions. This sortie is NOT directly under the sub-satellite track so orientation is not critical and should be decided to maximize clear conditions.

A = 54°50'N 3°30'E
B = 56°10'N 2°00'E

1. Take off, transit to operating area arriving at low level (45 mins)
2. Start straight and level run from A to B at lowest permitted altitude (25 mins)
3. Profile ascent from lowest permitted altitude to max altitude at 1000ft/min to finish at point B (45 mins) **Note** that once fuel has been burnt if extra height can be gained then profile up to new max altitude between straight and level runs.
4. Start run from B to A (15 mins)
5. Start run from A to B launching sonde at start of run then every 3 mins (15 mins)
6. Start run from B to A to coincide with **IASI overpass** 1037Z launching sonde at start of run then every 3 mins (15 mins)
7. Start run from A to B launching sonde at start of run then every 3 mins (15 mins)
8. Start run from B to A (15 mins)
9. Start of profile descent from max altitude to lowest permitted altitude @ 1000ft/min to finish at point A (35 mins)
10. Start straight and level run between A and B at lowest permitted altitude (25 mins)
11. Transit home (45 mins)
12. Land (Total sortie time 4:55)

Mission scientist Debrief Flight No. B264

Phil Brown 1 Feb 2007

Planned as a flight to measure up- and down-welling radiances in clear air within the range of the IASI instrument on the METOP satellite. Examination of satellite images prior to flight suggested that the required cloud-free conditions would be difficult to obtain but just about possible.

Transit at 15000ft to central N.Sea (~55N 3E), suggested that required cloud free conditions may just be obtainable. Descent to 100ft for initial run sampling downwelling radiances and obtaining Heimann radiometer calibration data. During this run, patchy altostratus cloud was persistent and there was also persistent thin cirrus cloud. In view of the requirement for clear sky conditions, it was decided to **abandon t**he primary sortie at this point. One profile ascent to 32000ft was conducted to provide test data for the FWVS.

General synoptic situation.

Anticyclone centred to the S of Ireland with a broad warm sector over the UK at midday. Warm front lying approximately Holland – Shetlands producing incomplete cloud clearance due to moist profile persisting through most of the troposphere..

Mission Scientist's Log

Flight No B.264. Date 1/2/07. Name PHIL BROWN Page 1 of 2

GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
0755					T/O Cranfield. QNH 1028
/				Patches	As & Ci to the N & E.
/				Mist patches around on the grd.	
0806		15000	037	approaching the Wash. Patches As just below & extending ahead for a while.	
/					
				Masses of contrails on SE horizon.	
0814			11	Track looks roughly parallel to edge of As region. Definite clearance away on LH of track	
/				but still wispy Ci.	
0829		11	11	Extensive layers As above & below at this stage. Seems free of low cloud below & also clearance to NW along	
/				proposed A-B track	
0840				Indescent, 1026 QNH.	
0845			328	on track A-B. Still As above but clearance ahead	
084518		100			Start R1
0859				Mostly clear of As above now	
				but probably thin overcast of Ci	
				This is thicker away to E	
090407				End	R1
090505			50		Start P1
				Sortie abandoned - not going	
				to be suff - clear patches.	
091335		8000			holding, turn reciprocal.
094421		32000			End P1 start R2 for 10 min
095634		32000			End R2 start P2 for FL100

Mission Scientist's Log

Flight No **B** 264 Date 1/2/07 Name ..... Page 2 of 2

GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
0958		31000			GE leveled to constant with some hunting on timescale ~5min
—					Frost pt ~ -55, FWVS was
					still coding down
1005					GE & FWVS coverage at ~ -38C
					in descent. Asymmetry.
1014					FWVS now ~ 2° colder, GE -14
1025					landed.

Revision date: 12/03/2007 2:58 PM

CLOUD PHYSICS PROCESSING LOG

Flight number: **B264** **T/O:** 075520
Date of flight: 1/2/07 **Land:** 102558

A) FFSSP PROCESSING		
Processing Stage	Done?	Comments
1) Transfer *.txt files from DVD to processing PC		
Bnnn_FFSSP_hh.txt for each hour of data Bnnn_FFSSP_HVMS.txt		**hh =** **Last sec processed =**
2) FTP the files (ascii) from the PC to directory PMSDATA: on FLOODS		**File size =**
3) FLOODS> **RUN MRFB:[PMS.FAST_FSSP]FSSP_EXTRACT_TAS** a) Flight number: **Bnnn** b) Path name: **MFDDATA:Bnnn_MFDX** c) Output directory: **PMSDATA:** d) Start time: *0 if unknown (see comment box)* e) End time: *240000 if unknown*		Use time just before/after take-off/landing. If T/O /landing just after/before the hour, ensure start/end time is before/after the hour if there is an FFSSP_hh.txt file for that hour.
4) FLOODS> **RUN MRFB:[PMS.FAST_FSSP]FFSSP_PROCESS_TXT** a) Flight number: **Bnnn** b) Directory: **PMSDATA:** c) TAS in processing: **Y** d) Vel threshold (clicks) **0** e) Calibration file: *Use the most recent calibration file.* Format FFSSP_CALddmmyyyy.txt Calibration files to be stored in MRFB:[PMS.FAST_FSSP] f) Adjust FFSSP time **Y/N** g) If Y, enter value to add to data time (seconds)		**Total glitches =** **Sec file written ok?** **Note calibration file used** Yes only if gross errors occur in FFSSP time eg; ~ 1hour
5) FLOODS> **WAVE** a) WAVE> **write_procffssp_to_m5,'pmsdata:Bnnn_procffssp.dat', 'mfddata:Bnnn_mfdX','pmsdata:Bnnn_m5procffssp',/auto** b) WAVE> **exit**		Use PVWAVE for this section **Note time correction applied to FFSSP by /auto =**
6) FLOODS> **MODIFY** a) Modifying datasets: **pmsdata:Bnnn_m5procffssp** b) Dataset: **mfddata:Bnnn_mfdX** c) New dataset: **mfddata:Bnnn_mfdY (y=x+1)** d) Parameter description file: *leave blank to use default*		**Input file size =** **M5 output file size =**
7) CHECKS: i). Are FFSSP and JW/Nevzorov LWC synchronized in time? *In flight_plot, parameters* *JW LWC para 535* *Nevzorov LWC para 602* *FFSSP LWC para 1202* ii). If not, repeat from step 5b replacing /auto with **addt=x** which adds x+20 secs to FFSSP time.		**Synchronized?**

CLOUD PHYSICS PROCESSING LOG

Flight number: **B264**
Date of Flight: 1/2/07

B) **2D PROCESSING**		REPROCESS +1hr
Processing Stage	Done?	Comments
1) Transfer B264.dat file from CD/DVD to PC	Y	
2) Zip up file on PC (B264.zip)	Y	
3) FTP the zipped file (binary) from the PC to the directory SEADAS_DATA:[SEADAS_DATA] on FLOODS	Y Y	
4) Log on to FLOODS	Y	
5) Unzip SEADAS_DATA:[SEADAS_DATA]B264.zip	Y	**Size of B264.dat = 360294**
6) FLOODS> **WAVE**	Y	Use PVWAVE for this section
WAVE> **CONVERT_SEADAS_FILE**	Y	**Blocks read =59425**
a) Input file: **SEADAS_DATA:[SEADAS_DATA]B264.dat**	Y	**Blocks written = 59425**
b) Output file: **SEADAS_DATA:[SEADAS_DATA]B264_seadas.dat**	Y	**Bad reads =0**
WAVE> **exit**	Y	
7) FLOODS> **RUN MRFB:[PMS.SEADAS]READM200_FILE**	Y	
a) Default directory: **PMSDATA:**	Y	
b) Flight number: **B264**	Y	
c) Disk file name: **SEADAS_DATA:[SEADAS_DATA]B264_seadas.dat**	Y	
d) Comment string:	Y	
e) Start time: *0 if unknown (T/O – 5 min)*	**Y**	**Start = 0**
f) End time: *240000 if unknown (Land + 5 min)*	**Y**	**End = 240000**
g) Read 2DC: **Y**	Y	Ignore error message scroll
h) Read 2DP: **Y**	Y	(vestigial error from tapes)
i) Secondary data: **Y**	Yy	**Are FRW, FSP, IMB, PCA,SEC**
j) FSP-SYNC: **Y**	Yy	**files in PMSDATA?**
k) cmd.str: **Y**	Y	**Are they non-zero in size?**
l) Auto time correction: **N**	Y	
m) Full length secondary:**N**	y	
8) FLOODS> **WAVE**	Y	2D image display and printing
i). WAVE> **imagedisplay**	Y	Must be done from FLOODS
a) 2D directory name: **PMSDATA:**	Y	itself.
b) Flight number: **B264**	Y	
c) File generation no: **0**	Y	
d) Time from IWC plot: **N**	Y	
e) Select probe: (**1**) 2DC (**2**) 2DP	Y	
f) Start time: *As in 7e above*	Y	
g) End time: *As in 7f above*	Y	**Note any problems with images**
h) Time interval (sec): **5** recommended (0 for all images)	Y	
ii). WAVE> **auto_image**	Y	Prepare imagery for Core data
a) 2D directory name: **PMSDATA:**	Y	From own PC again
b) Flight number: **B264**	Y	
c) Enter date: **20070201**	Y	
d) Enter start time: *0 if unknown (T/O – 1 min)*	**Y**	**Start = 0**
e) Enter end time: *240000 if unknown (Land – 1 min)*	**Y**	**End = 240000**
f) Enter time interval (sec) between successive imaged blocks: **10**	Y	
iii). WAVE> **exit** to create files	Y	FAAM_YYYYMMDD_R0_
iv). FTP ascii *.PS files from PMSDATA: to PC	Y	Bnnn_2Dx-images.ps
v). Load each into Ghostview or other pdf-converter	Y	Notes on this in instructions
vi). Output as pdf file (720 dpi resolution), appending name prefix of **CORE-CLOUD-PHY**_ to converted files	Y	

9) FLOODS> **RUN MRFB:[PMS.SPEC2D.AUTO]PROCESS2D_AUTO**		NB. an error message may
a) Flight number: **Bnnn**		appear, floating point
b) Directory: **PMSDATA:**	Y	exception, rerun and use
c) File generation: *Hit enter*	Y	time quoted in error
d) Time correction: *Time offset of the 2D data*	Y	message, repeat until
e) TAS: **Y**	Y	successful.
f) MFD directory: **MFDDATA:B264_MFDa**	**Y**	**X =a**
g) Probe number: (**1**) 2DC (**2**) 2DP (**0**) Both	**Y**	
0 unless either probe known to be faulty	**Y**	
h) Start time: *0 if unknown (T/O + 30sec)*	**Y**	**Start =0**
i) End time: *240000 if unknown (Land – 30sec)*	**Y**	**End =** 240000
j) Nominal averaging: **0.2** seconds for conversion to M5	**Y**	
k) Particle type 2DC: **8** if known to be in ice cloud	**Y**	**Time data processed to =**
11 if known to be in water cloud	**Y**	101905
l) Particle type 2DP: **8** if known to be in mixed-phase	**Y**	**2dproc files present?**
8 if unknown	**Yy**	*.2dc, *.2dp and *.dat
m) Coefficient choice: **2**	**Y**	
n) Output root filename: **PMSDATA:Bnnn_PROC2D**	**Y**	
10) FLOODS> **WAVE**	**Y**	Use PVWAVE for this section
i) WAVE> **WRITE_PROC2D_TO_M5, 'PMSDATA:BNNN_PROC2D.DAT', 'PMSDATA:BNNN_M5PROC2D'**	**Y**	Error message about HDDR file should be ignored.
ii). **exit**	**y**	**Records =**
11) FLOODS> **MODIFY**		
a) Modifying datasets: **pmsdata:Bnnn_m5proc2D**		
b) Datset: **mfddata:Bnnn_mfdX**		**X =a**
c) New dataset: **mfddata:Bnnn_mfdY**		**Y = (X+1) b**
d) Parameter description file: leave blank to use default		
12) CHECKS:		
Are 2DC/2DP IWC of comparable magnitude and well-correlated with Nevzorov TWC?		**Correlated?**
In flight_plot, parameters		
Nevzerov TWC para 605		
2DC IWC para 1302		
2DP IWC para 1312		

CLOUD PHYSICS PROCESSING LOG

Flight number: B
Date of Flight:

C) PCASP PROCESSING		
Processing Stage	Done?	Comments
1) Complete stage 7) in 2D processing Ensures Bnnn_FSP.DAT containing raw PCASP data is written to directory PMSDATA:		
2) FLOODS> **RUN MRFB:[PMS.PCASP]PROCPCASP_NEW** a) Flight number: **Bnnn** b) File name: **PMSDATA:Bnnn_FSP.DAT** c) Root output name: **PMSDATA:Bnnn_PROCPCASP** Produces PMSDATA:Bnnn_PROCPCASP.DAT (binary) PMSDATA:Bnnn_PROCPCASP.OUT (ascii) d) Minimum size channel: *default = 1* *If smallest size channel are known to be noisy the value of the highest noise free channel to be entered here* e) Calibration volume flow rate: *Use the most recent value. 1.8ccs^{-1}* *Calibration files to be stored in **Exeter*** *Entering zero gives default value = 1.0 cm^{3}s^{-1}* f) Time correction: *Same value as used in 2D processing stage 9d* g) Start time: *0 if unknown* h) End time: *240000 if unknown*		**Min size =** **Vol flow rate =**
3) FLOODS> **WAVE**		Use PVWAVE for this section
i).WAVE> **write_procpcasp_to_m5, 'pmsdata:Bnnn_procpcasp.dat', 'pmsdata:Bnnn_m5procpcasp'** ii). WAVE> **exit**		
4) FLOODS> **MODIFY** a) Modifying datasets: **pmsdata:Bnnn_m5procpcasp** b) Dataset: **mfddata:Bnnn_mfdX** c) New dataset: **mfddata:Bnnn_mfdY** d) Parameter description file: *leave blank to use default*		**X =b** **Y = X+1 =c**
5) CHECKS Are PCASP and JW peaks synchronous? *In flight_plot, parameters* *Neph – total blue scatter.* *PCASP conc para 1550*		**Merged OK?**

SWS and SHIMS FLIGHT LOG SHEET

Flight #	B264	Date	1/2/07	Operator(s)	Jeff Brown	log page	1 of 3

Note to operator: Indicate whether entry refers to SWS or SHIMS

Time	Run id	Alt/FL	Mirr Pos	Int Times		Remarks	SWS	USH	LSH
				Vis	NIR				
0630						Switch on · modules a little slow to re-act but all ok. Due to INT SETTING FOR SR			
0654						SWS & USH taking 5-10 secs to toggle to Idle on selecting Dark. Toggle back instantly on selecting Scene all.			
						"Video" circuit breaker not working.			
0757						TAKE OFF			
080521		10000	174° A	1000		Modules set for transit.	✓		
080610			174° A	1000		Horace data not available.		✓	
			174° A	1000					✓
081655		15000	174° A	750		Dark		✓	
081713		15000	174° A	750		Scene		✓	
082036		15000	174° A	750		Dark - over Sc 5 (3/8)			✓
082103		15000	174° A	750		Scene			✓
082233		15000	174° A			Entered Ac			
082430		15000	174° A			Between Ac layers			
084030		8500	174° A			In cloud during descent.			
084530	R 1	100	174° A	1000		Dark (below Sc & Ac)			✓
084604	R 1	100	174° A	1000		Scene vis 20km - 10km			✓
0857	R 1	100	6° F			SWS head to Zenith (clear patch)			
090335	R 1	100	6° F	500		Scene		✓	
090359	R 1	100	6° F	500		Dark		✓	
090505	P 1 ↗	50	6° F			Start of profile ↗			
090613	P 1 ↗	1000	6° F	500		Dark all	✓		
090643	P 1 ↗	1000	6° F	350		Scene all		✓	
091430		8000	6° F			Banking during ↗ interrupt			
0918		10000	6° F			Hazy below, Ci Ac + Contrails above			
0930		27000	6° F			Above 7+/8 Sc/Ac/Ac			
		27000	6° F			2/8 Ci above.			
093914		30000	6° F	1000		~~Scene~~ Dark all	✓		
		30000	6° F	350				✓	
093957		30000	6° F	750		~~Dark~~ Scene all			✓
0943	R2	32000	Various			Temp -50 - clocked movement			
	R2	32000	Various			on SWS head - appears OK to			
	R2	32000	Various.			move if a little stiff			
094940	R2	32000	6° F	400		Dark			✓
095050	R2	32000	6° F	400		Scene. Clear below over sea.			✓
	R2	32000	6° F			2/8 Ci above.			
0958	P2 ↘	32000	6° F			Unable to get derived data			
						from Horace. bar what was			
						set up before T/O.			
100606	P2 ↘	22000	6° F	200		Dark		✓	
100628	P2 ↘	22000	6° f	200		Scene		✓	
1017						Head aft for landing.			

ARIES flight log

Flight: B264.	page 1 of
Date: 01/FEB/67	Operator(s): S. Rogers	Res: 1	Gain A:2 B:2.
Loc./Notes:	

Scans: *either "[IGMs]X[co-adds]", or "[stop DRS time]" if in start/stop, or "[macro name]".* ***View:*** *mirror angle.*

DRS time	Flt ptrn	Scans	View	Shtr	HBB	CBB	Comments
06 39 45	On High	1×60	CBO	C	71	31	Cdd. 1 120 2 240 3 360
06 40 22		"	H	~~C~~			Hol
07 55	TAKE OFF						
08 05 45	FL150?	1×60	C	C	71	31	
08 06 22	"	"	H	C	71	31	TRANSIT = BREAKFAST.
08 45 15	100 ft.	1×60	C	C			0910
08 45 56		"	H	C	71	31	~~Thick~~ cloud above
08 46 54	100 ft	240×1	N	C	71	31	"
08 49		1×60	C	C			
08 49 37		"	H	C	71	31	"
08 50 18	100 ft	240×1	N	C	71	30.5	
08 52 25		1×60	C	C	71	31	"
08 52 59		"	H	C	71	31	
08 53 41	100 ft	240×1	N	C	71	31	"
08 55 48		1×60	C	C			"
08 56 22		"	H	C			
08 57 08	100 ft	240×1	Z	O	70	31	Patchy cloud above, thinning.
09 00 00		~~1×60~~	~~C~~	C			Typical – clear shot just as Z ends!
09. 00 34		"	H	C	71	30	Contrail above
09. 01 21	100 ft	240×1	Z	O	70	31	Clear above (hint of Ci/contrail)
09 03 50		1×60	C	C	71	31.	
09 04 22		"	H	C			Run cut short – unfavourable cloud cover.
09 05	P1 ↑						
09. 44 22	R2	1×60	C	C	71	30	
09. 44 56		"	H	C	70	31	
09. 45 36		240×1	Z	O	70	31	Cut short – finger trouble!
09 46 59		120×1	N	C	71	31	Clear above? Thin Ci?
09 48 11		1×60	C	C	71	31	
09 48 45		"	H	C	71	31	
09 49 23		180×1	Z	O	70	30	Shutter opened after view start!
09 51 55		1×60	C	C	71	30.5	
09 52 30		"	H	C	71	31	

Microwave Radiometers FLIGHT LOG	Date	1/2/07	Flight	B264	log pages	
Operator(s)	JB		Campaign	IASI Cal Val		
Departure	Cranfield		Arrival			

System start

MARSS

Visual pod inspection						•
Close 3 SSP circuit breakers						•
Close all MARSS circuit breakers						•
FERA on				at time	0549	
Temperature controller initial temps	Ch16	17.6°C	Ch 17	17.6°C	Ch18	17.6°C
Temperature controller set points		54°C		58°C	-20	40°C
MARSS CPU on				at time	0549	
Initial target temperatures	Hot	290.1		Cold	286.1	
Target heating						•
*** CHECK SCAN HEAD CLEAR ***						•
Scanning on (LMD box)				at time	0630ish	
Scan indication		Monitor	•		Visual	•

Deimos

Close all Deimos circuit breakers	Not Req & noisy					
Turn on Deimos CPU						
*** CHECK SCAN HEAD CLEAR ***						
Start Deimos Software				at time		
Initial target temperatures	Hot			Cold		
Target heating						
Scan indication		Monitor			Visual	
Weather	Cloud	Broken ci		Precip	none	
	Surface	dry		Pressure		
	Other					

System functionality check

(after initial system warmup, approx 1 hour)

PC to DRS Time error	$t_{PC}=t_{DRS}$ +	0		at time	06:40	
Brightness temps 'sensible'						•
Target temps	MARSS:	Hot	344.58	Cold	283.1	
	Deimos:	Hot		Cold		

Channel gains 'sensible'	Ch1 A (-)	Ch3 A (-)	Ch1 B (-)	Ch3 B (-)	
	Ch16 (40-44)	Ch17 (45-49)	Ch18 (40-44)	Ch19 (40-44)	Ch20 (44-48)
	37.7	32.8	38.1	40.26	42.6

Power changeover

Headset on before start			•
Listen to engine start sequence	4, 3, 2, 1.		•
LMD off (3 switches, bottom to top)			•
Exit Deimos Software (x)			
POWER CHANGEOVER			
LMD on (3 switches, top to bottom)	then pushbutton		•
Restart Deimos Software			
System running again		at time	

Flight #	B	Date		Operator(s)		log page	2	of	2

Time	**Run id**	**Alt/FL**	*Remarks*	**Sys**
0633	**Prefli**		No chan16	
0650	**Pre**		Its Back!, Ch16. Few mins after LO power cycle.	
0822	**Tran**	**Dec**	Decending through SC. Some ci above.	
0826			Still broken sc below	
0832			Decending through cloud	
0838			In cloud	
0842		**Dec**	Clear below, cloud above	
0902	**Low level**	**R1**	Patch of AC coming up.	
0904		**EOR**	Cal val abandoned. Will do profile for FWVS	
1010			Ch16 gone…	

Flight: B264

KEY

Not Fitted	Duff Data
Fitted, Not Operated	Minor Problems
	OK

Thermometers
- Cabin Temperature:
- Heimann:
- Deiced Temp:
- Non-deiced Temp:

Hygrometers
- FWVS:
- General Eastern:
- Johnson Williams:
- Nevzorov:
- Total Water Probe:

Cameras
- Downward Facing:
- Forward Facing:
- Rearward Facing:
- Upward Facing:

Navigation + Aircraft
- Cruciform GPS:
- GIN Applanix:
- INU Honeywell:
- Radar Altimeter:
- RVSM IAS:
- RVSM Static Pressure:
- XR5 GPS:

Misc Core
- AMTG:
- AVAPS:
- Cabin Pressure:
- Fax machine:
- Printer:
- S9 Static Pressure:
- Satcom C:
- Satcom H:
- Turbulence Check Press:
- Turbulence Diff Press:
- Weather Radar:

DLUs:
- DLU AERACK:
- DLU BBR Lower:
- DLU BBR Upper:
- DLU Core Chem:
- DLU Core Consoles:
- DLU Port Aft:
- DLU Port Fwd:
- DLU Stbd Fwd:

Radiometers
Lower:
- BBR (clear) Lower:
- BBR (IR) Lower:
- BBR (red) Lower:

Upper:
- BBR (clear) Upper:
- BBR (IR) Upper:
- BBR (red) Upper:

- ARIES:
- DEIMOS:
- IR Camera:
- JNO2 Lower:
- JNO2 Upper:
- JO1D Lower:
- JO1D Upper:
- MARSS:
- SHIMS Lower:
- SHIMS Upper:
- SWS:
- TAFTS:

Cloud Probes
- 2DC:
- 2DP:
- FFSSP:
- PCASP:

- ADA:
- CCN:
- CDP:
- CIP 100:
- CIP 25:
- CPI:
- CVI:
- SID1:
- SID2:

Aerosol
- CPC 3025A:
- Filters 47mm:
- Filters 90mm:
- Neph - Dry:
- Neph - Wet:
- PSAP:

- AMS:
- CPC 3010A:
- INC:
- VACC:

Chemistry
- CO Aerolaser 5002:
- NOx TE42C:
- Ozone TE49C:
- Ozone TE49:
- SO2 TE43C:
- TDLAS (NIR) CH4:
- TDLAS (NIR) CO2:

- FAGE:
- Formaldehyde:
- NOxy:
- ORAC:
- PAN:
- PERCA:
- Peroxide:
- PTRMS:
- TDLAS (1C):
- WAS Bags:
- WAS Bottles:

Misc Non-Core
- CASI/ATM:
- LIDAR:
- LTI:
- SAW Hygrometer:

Report Created 05/02/2007 11:37:13

Last Updated: 02/02/2007 10:41:24

Faults / Incidents Log

Flight No. B264
Date: 01 February 2007

Instruments

1. TWC – u/s, not fitted
2. Nevzorov – LWC not responding to zero-cal. TWC okay.

Aircraft

Satcom H Calls
None

Pre-Flighter's Log

Date: 1/2/07 Flight No: B264 Pre-Flighter: RP

Item	√ or x	Location	Action	Comments
1		Hangar	Collect Dustbin, put on a/c	
		Aircraft Cabin		
2	N/A	Core Chemistry	Gases x 3 ON	
3	✓	Cabin	All Racks Checked	
4	✓	Fwd CorCon	All reqd CBs made	
5	✓	Aft CorCon	CBs made, PCs ON	
6	✓	HORACE	Optical Disk loaded	
7	✓	HORACE	Recording data	
8	✓	HORACE	DLU Status Checked	
9	✓	HORACE	HORACE Status Checked	
10	✓	Satcom H	Power LED ON	
11	✓	Nevzorov	Checked and OFF	
12	✓	GPS	Checked	
13	✓	INU	Align	
14	✓	Cameras Pictures	Checked x 4 OK	
15	N/A	Core Chemistry	Instruments Checked OK	O3 + NOx only
16	N/A	Core Chemistry	CO Flows Checked OK	
17	N/A	FWVS	Set up	
18	✓	Video x 2	Records okay, Rewind	
19	✓	Delced Rosemount	Heater Checked / Set	
20	✓	Heimann	Calibration Checked	
21	N/A	TWC	ON & Checked	
22	✓	GE	Balance checked	
23	✓	INU	Navigate then back to Align	
24	✓	Hubs x 4	Checked ON	
25	✓	Fwd Console	Miss. Sci Laptop CB made	& CB on Port Fwd SSP
26	✓	CNC	Butanol filled	
27	N/A	CGPS	Set up	U/S
28	✓	Miss. Sci Laptop	Checked Onboard	

External Checks overleaf →

Pre-Flighter's Log

Item	√ or x	Location	Action	Comments
		External		
29	✓	Turb Probe	Clean if reqd, Photo taken	
30	✓	JW	Cleaned & Checked	
31	✓	DI Rosemount	Cleaned & Checked	
32	✓	NDI Rosemount	Cleaned & Checked	
33	✓	Nevzorov	Cleaned/windings checked	
34	✓	GE	Cleaned & Checked	
35	✓	Lower BBRs	Domes cleaned/checked	
36	✓	Camera Windows	Cleaned	
37	✓	Heimann	Lens checked OK	
38	✓	TWC Cover	Fitted if required	Not fitted
39	✓	All other covers	Removed	
40		Dustbin	Returned to hangar	
41		Tools	Check ALL in Toolkit	
42		Tools	Avalon informed	
	✓	**Avalon Checks**		Signed
43	✓	Upper BBRs Checked & Cleaned		
44	✓	ICEX applied		
45	✓	Traps empty (weekly only)		

MISSING LOG SHEETS:

The following log sheets are not available for flight B264:

Log	Reason
Core Chemistry	pre flight only, unmanned operation on auto calibrate so no In Flight log
Cloud Physics In Flight	CORRUPT file on SID2 PC - no log available
FWVS	No log is ever taken for FWVS
AVAPS	No sondes dropped

Document control

Revision	Date	Author	Comments
r0	26 Mar 2007	Doug Anderson	Initial version missing the above noted logs
r1			
r2			

VIDEO RECORDINGS:

1 x Upward Facing Cameras
1 x Downward Facing Cameras
1 x Forward Facing Cameras

Digital8 video recordings from this flight reside with :

Philip Brown

Manager, Cloud Physics Research
Met Office
Cordouan 2
FitzRoy Road
Devon
EX1 3PB
UK

Tel: +44 (0)1392 886740

E-mail: phil.brown@metoffice.gov.uk

New plot, same times

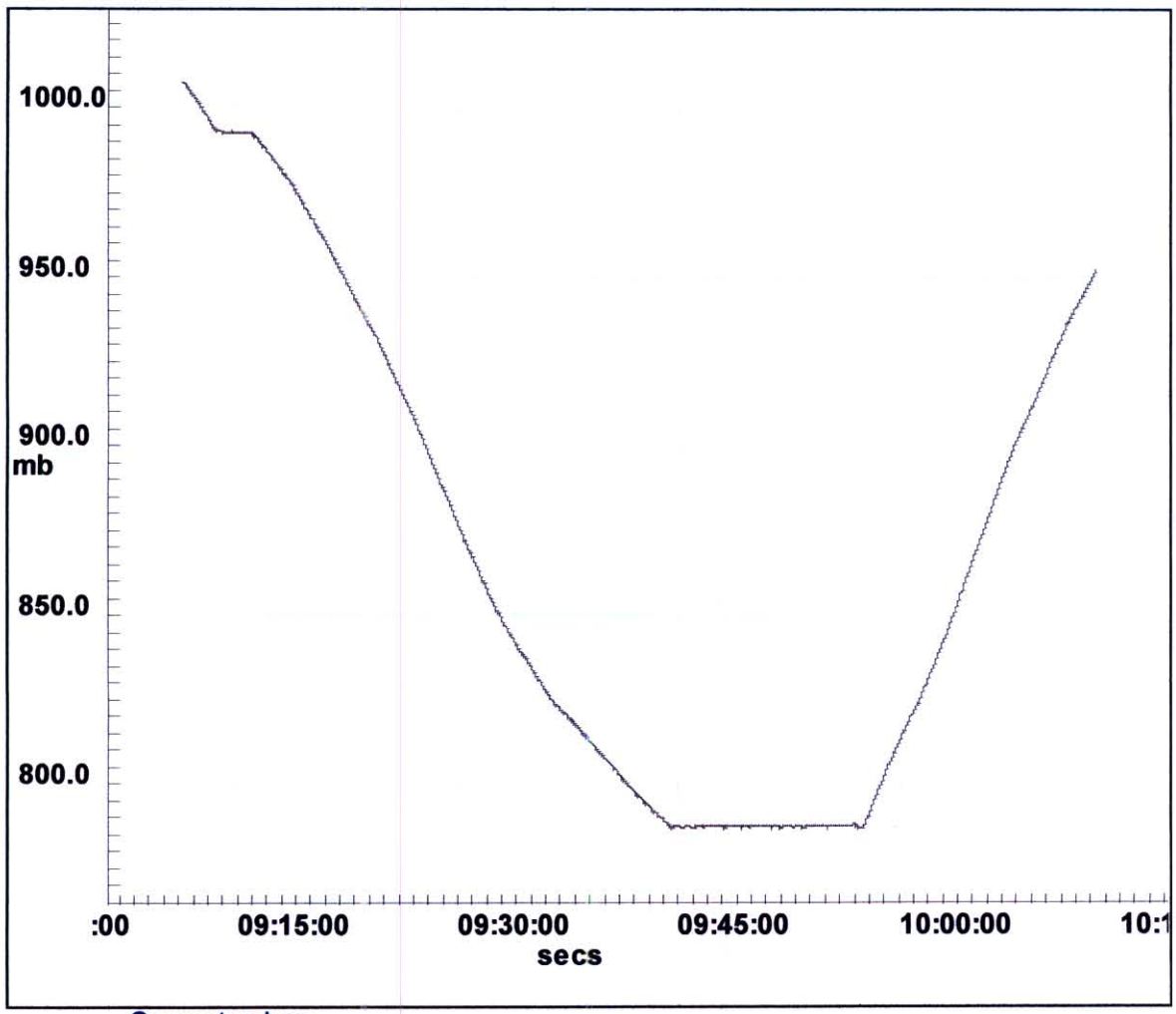
Flight B264 10:13:26

Heading 266 deg Speed 255 knots Height 14.0kft Press 593mb

Lat 52°24.0'NLong 0°0.0'E Wind 13 ms-1/ 2 deg

Temp -12.84C Dewpoint -14.75C

From 09:11:15 to now



Current values			
TIME FROM MIDNIGHT	36804	secs	All
CABIN PRESSURE	951.64	mb	

New plot, same times

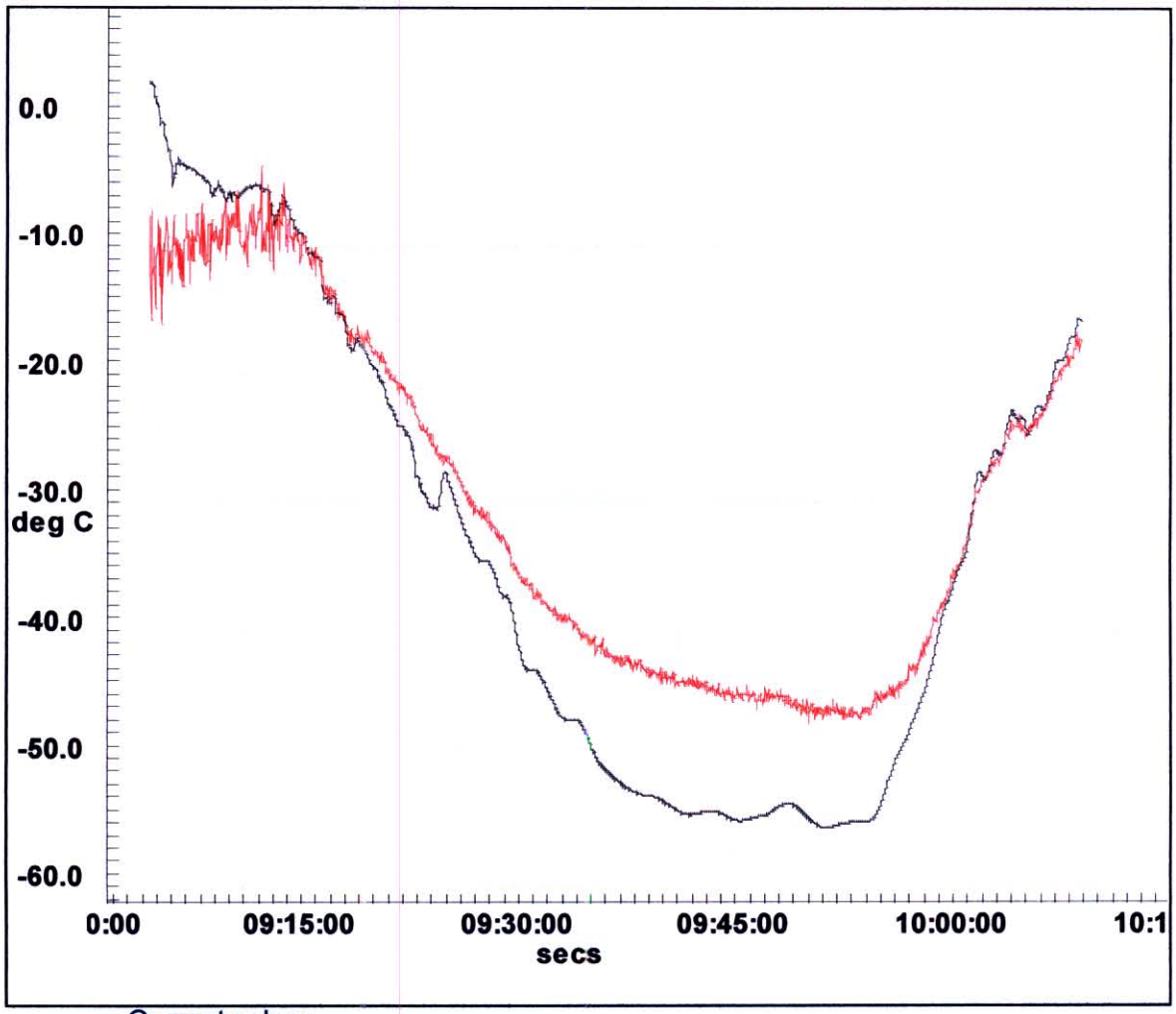
Flight B264 10:12:50

Heading 267 deg Speed 253 knots Height 14.7kft Press 577mb

Lat 52°24.0'NLong 0°0.0'E Wind 14 ms-1/ 0 deg

Temp -14.45C Dewpoint -15.8C

From 09:08:26 to now



Current values			
TIME FROM MIDNIGHT	36768	secs	All
DEW POINT	-15.81	deg C	
DEW POINT (FLUORESCENCE WVS)	-17.36	deg C	